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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/802,227

03/17/2004

David L. Carroll

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3543

7590

06/10/2005

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EXAMINER

HE, AMY

ART UNIT

PAPER NUMBER

2858

DATE MAILED: 06/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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<b>Office Action Summary</b>	<b>Application No.</b> 10/802,227	<b>Applicant(s)</b> CARROLL ET AL.	
	<b>Examiner</b> Amy He	<b>Art Unit</b> 2858	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 September 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |                                                                                                                                            |                                                                                        |
|--------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                                       | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>3/17/04</u> | 6) <input type="checkbox"/> Other: ____                                                |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1-7, 13-15 and 22-25 are rejected under 35 U.S.C. 102(b) as being anticipated by Clinton et al. (U. S. Patent No. 4, 056,771).

Referring to claim 1, Clinton discloses a system (in Figures 2A and 2B) for high voltage testing of twisted insulated conductors, comprising:

a high voltage power supply (high potential dc power supply 22, col. 2, lines 9-10) to be disposed within a rotating mechanism of a twinner;

an electrode (34) coupled to the high voltage power supply (22) and to be disposed adjacent to a take-up reel within the rotating mechanism of the twinner, the electrode for generating sparks between the electrode and the twisted insulated conductors when a fault in the insulation of the conductors, when being wound on the take-up reel, passes by the electrode(col. 1, lines 40-46; col. 2, lines 26-28);

a transmitter(rotatable electrical coupling means, col. 2, lines 29-34; or slip ring 60) to be disposed within the rotating mechanism for transmitting a signal (the high frequency signal produced by the current sensitive means 42, col. 3, lines 52-63; claim 7) carrying information representative of fault detection characteristics of the twisted

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insulated conductors, the information being derived from the sparks generated between the electrode and the twisted insulated conductors; and

a receiver (any circuit component that receives the transmitted signal from 60, such as 62 or 100) to be disposed outside of the rotating mechanism for receiving the signal from the transmitter.

Referring to claim 2, Clinton discloses the system as defined in claim 1, further comprising a fault detector (current sensitive means 42, col. 3, lines 60-63) to be disposed within the rotating mechanism, the fault detector communicating with at least one terminal of the high voltage power supply (22) for detecting an increase in current (col. 2, lines 23-28) across terminals of the high voltage power supply indicative of a fault in the insulation of the twisted insulated conductors being tested by the electrode and for thereupon generating the information (the low voltage output signal, col. 2, lines 23-24) representative of fault detection characteristics of the twisted insulated conductors.

Referring to claim 3, Clinton discloses that the high voltage power supply is a DC power supply (DC power supply 22 as shown in Figure 2A).

Referring to claim 4, Clinton discloses the system as in claim 3, wherein the high voltage power supply (22) is adjustable (through slip ring 20 and autotransformer 18 as shown in Figure 2A) and capable of generating a voltage potential from approximately 200 volts to approximately 10 kilovolts (col. 3, lines 1-15; claim 3).

Referring to claims 5-6, Clinton discloses a microprocessor based logic controller (controller and indicator as shown in Figure 2B, col. 1, lines 61-63; col. 2, lines 39-41;

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col. 4, lines 51-54) coupled to the receiver for processing the information representative of fault detection characteristics of the twisted insulated conductors.

Referring to claim 7, Clinton discloses an alarm indicator (warning lamp 180 and 146) for activating at least one of an audible alarm and a visual alarm when faults have been detected or a predetermined number of faults have been exceeded (col. 5, lines 59-68).

Referring to claim 13, Clinton discloses detecting faults include at least one of pinhole faults, bare wire intervals, whether the detected faults exceed a predetermined number, and whether the detected faults exceed a predetermined number per unit length of the twisted insulated conductors being tested (col. 1, line 65-col. 2, line 3; claim 10).

Referring to claims 14-15 and 22-25, they are the method claims corresponding to the rejected apparatus claims 1-2, 4, 7 and 13. They are rejected for the same reasons as stated above for the rejection of the apparatus claims.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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2. Claims 8-11 and 16-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Clinton et al. (U. S. Patent No. 4, 056,771), in view of Kiefer (U. S. Patent No. 5, 594,176).

Referring to claims 8-9, Clinton discloses the system as in claim 1. Clinton does not disclose that the transmitter is a first transceiver and the receiver is a second transceiver, and wherein the first and second transceivers are radio frequency transceivers. Kiefer discloses a RF transceiver (col. 1 line 63-col. 2 line 9). A person of ordinary skill in the art would find it obvious at the time the invention was made to modify Clinton to replace the slip ring with known transceivers such as a radio frequency transceiver for transmitting the detected signal from within the rotating mechanism of the twinner to outside of the rotating mechanism of the twinner for further processing, as taught by Kiefer, in order to reduce noise; and to reduce energy lost due to the mechanical drag produced by the contact of the slip ring. In addition, slip ring has service concerns in regard to breakage and maintenance (col. 1 line 63-col. 2 line 9).

Referring to claims 10-11. Clinton in view of Kiefer discloses the system as in claim 8, wherein the first and second transceivers are radio frequency transceivers. Clinton in view of Kiefer does not disclose that the first and second transceivers are infrared transceivers or optical transceivers. A person of ordinary skill in the art would find it obvious at the time the invention was made to further modify Clinton to use infrared transceivers or optical transceivers in place of the RF transceivers, since it has been held to be within the general skill of a worker in the art to select a known tool (infrared and optical transceivers) for a known purpose (of transmitting and receiving

signals) on the basis of its suitability for the intended use as a matter of obvious design choice *In re Leshin*, 227 F.2d 197, 125 USPQ 416 (CCPA).

Referring to claims 16-21, they are the method claims corresponding to the rejected apparatus claims 9-11. They are rejected for the same reasons as stated above for the rejection of the apparatus claims.

3. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Clinton et al. (U. S. Patent No. 4, 056,771).

Referring to claim 12, Clinton discloses a low voltage power supply disposed outside the rotating mechanism for energizing the high voltage power supply (claim 3). Clinton does not disclose that the low voltage power supply is disposed inside the rotating mechanism. A person of ordinary skill in the art would find it obvious at the time the invention was made to modify Clinton to dispose the low voltage power supply inside the rotating mechanism, since changing the location of the low voltage power supply does not change the functionality of the insulation fault tester of Clinton.

### ***Conclusion***

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Wilkes (U. S. Patent No. 3, 763, 426) discloses apparatus and method for testing twisted pair wire for insulation faults or to sense breaks in the conductors.

Clinton (U. S. Patent No. 4, 24,304) discloses spark tester for detecting continuity of an insulated wire conductor.

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Balchunas (U. S. Patent No. 4, 313,085) discloses detecting insulation faults in the insulation of wires being stranded into cable.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amy He whose telephone number is (571) 272-2230. The examiner can normally be reached on 8:30am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie Lefkowitz can be reached on 571-272-2180. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AH

June 7, 2005.

  
**ANJAN DEB**  
**PRIMARY EXAMINER**